

CLAIMS

1. A micro-oscillating member, comprising:
a plurality of movable elements;
a plurality of torsion springs arranged on the
5 same axis which connects the plurality of movable
elements in series;
a support portion for supporting a part of the
plurality of torsion springs;
driving means for applying a torque to at least
10 one of the movable elements; and
driving control means for controlling the
driving means,
wherein a system composed of the plurality of
torsion springs and the plurality of movable elements
15 has a plurality of isolated characteristic
oscillation modes, and
wherein in the plurality of isolated
characteristic oscillation models, there exist a
reference oscillation mode which is a characteristic
20 oscillation mode of a reference frequency, and an
even numbered oscillation mode which is a
characteristic oscillation mode of a frequency being
approximate even number times the reference frequency.
2. The micro-oscillating member according to
25 claim 1, wherein the plurality of movable elements
and the plurality of torsion springs are integrally
formed from a piece of plate.

3. The micro-oscillating member according to claim 1, wherein the one piece of the plate is a single-crystalline silicon wafer.

4. The micro-oscillating member according to
5 claim 1, wherein, when a flat plane is provided perpendicular to the axis of the torsion springs, the flat plane intersects one of the plurality of torsion springs and at least one of the plurality of movable elements.

10 5. The micro-oscillating member according to claim 1, wherein, when a flat plane is provided perpendicular to the axis of the torsion springs, the flat plane intersects two or more of the plurality of movable elements.

15 6. The micro-oscillating member according to claim 1, wherein the plurality of movable elements are connected to two of the plurality of torsion springs.

20 7. The micro-oscillating member according to claim 1, wherein the driving control means is means for controlling the driving means so as to simultaneously excite the reference oscillation mode and the even numbered oscillation mode.

25 8. The micro-oscillating member according to claim 1, wherein, at a driving time, an increasing time of a displacement angle of at least one of the plurality of movable elements and a decreasing time

of the displacement angle are different.

9. A light-deflector comprising a micro-oscillating member according to claim 1 and a light-deflecting element arranged on a movable element of
5 the micro-oscillating member.

10. An image-forming apparatus comprising:
a light-deflector according to claim 9;
a light source; and
an image-forming optical system.